düwi®

DUW 054313
Wall Switch Set for Design
Duwi Everlux

Firmware Version : 1.0

Quick Start

A This device is a Z-Wave actuator. Triple click one of the buttons on the device will include the device. A green blinking of LED will indicate successful inclusion. The device is excluded by triple click to one of the buttons.

Please refer to the chapters below for detailed information about all aspects of the products usage.

What is Z-Wave?

This device is equipped with wireless communication complying to the Z-Wave standard. Z-Wave is the **international standard for wireless communication** in smart homes and buildings. It is using the **frequency of 868.42 MHz** to realize a very stable and secure communication. Each message is reconfirmed (**two-way communication**) and every mains powered node can act as a repeater for other nodes (**meshed network**) in case the receiver is not in direct wireless range of the transmitter.

Z-Wave differentiates between Controllers and Slaves. Slaves are either sensors **(S)** transmitting metered or measured data or actuators **(A)** capable to execute an action. Controllers are either static mains powered controllers **(C)** also referred to as gateways or mobile battery operated remote controls **(R)**. This results in a number of possible communication patterns within a Z-Wave network that are partly or completely supported by a specific device.
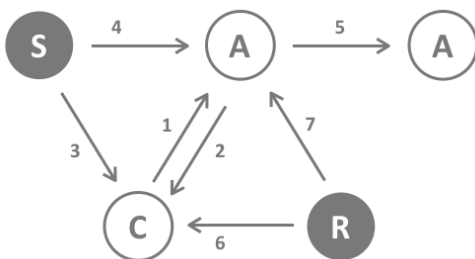
1. Controllers control actuators
2. Actuators report change of status back to controller
3. Sensors report change of status of measured values to controller

4. Sensors directly control actuators
5. Actuators control other actuators
6. Remote controls send signals to static controllers to trigger scenes or other actions
7. Remote controls control other actuators.

There are two different role a controller can have. There is always one single primary controller that is managing the network and including/excluding devices. The controller may have other functions - like control buttons - as well. All other controllers don't manage the network itself but can control other devices. They are called secondary controllers. The image also shows that its not possible to operate a sensor just from a remote control. Sensors only communicate with static controllers.

Product description

The Duwi Switch Flush Mountable is a wireless actuator able to switch loads up to 2300 W. The device is delivered as a complete set with flush mountable insert, paddle and mounting frame compatible to the design of the switching series Duwi Everlux white. The paddle of the device is used to control the device itself . The status of the switch is indicated on a dual color LED for test purposes. This device is designed for a 3 wire system and needs a neutral wire in the wall box.

Before Device is installed

Please read carefully the enclosed user manual before installation of the radio-actuator, in order to ensure an error-free functioning.

ATTENTION: only authorized technicians under consideration of the country-specific installation guidelines/norms may do works with 230?Volt mains power. Prior to the assembly of the product, the voltage network has to be switched off and ensured against re-switching.

The product is permitted only for proper use as specified in the user manual. Any kind of guarantee claim has to be forfeited if changes, modifications or painting are undertaken. The product must be checked for damages immediately after unpacking. In the case of damages, the product must not be operated in any case. If a danger-free operation of the equipment cannot be assured, the voltage supply has to be interrupted immediately and the equipment has to be protected from unintended operation.

Installation Guidelines

The insert is designed to fit into standard circular European wall boxes with 60 mm diameter. The insert combined with the mounting plate can be screwed in top of the wall box using the two screws delivered with the device. The mounting frame is then attached to the mounting plate and the switch is completed by pushing the switching paddle into the mounting frame. Mind the arrow on the inserts top side showing the mounting direction of the insert. It is also possible to mount the insert without any local operation behind a cover or inside a lamp. The mounting plate, frame and the switching paddle become useless in such a scenario.
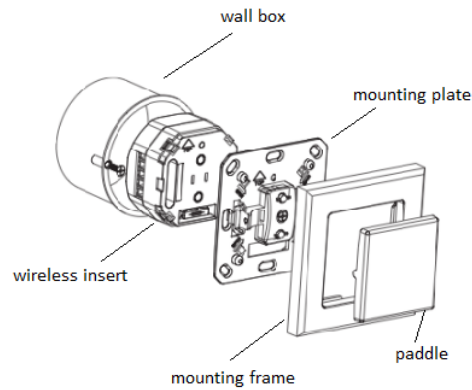
The schematics below shows how to wire the actuator. The two wired from the mains distribution panel are connected to the inserts contacts **N** and **L**. The contact **S** is the switched contact and need to be connected to the cable to the load. The second wire to the load is connected to **N** as well. Both contacts marked as **N** are connected with each other.

A fuse protects the electronics of the actuator. The fuse is accessible on the top side of the device. Inside the plug there is the working fuse plus a spare fuse.

L = lead-in AC 230V/50 Hz
N = neutral line
⚡ = switched line
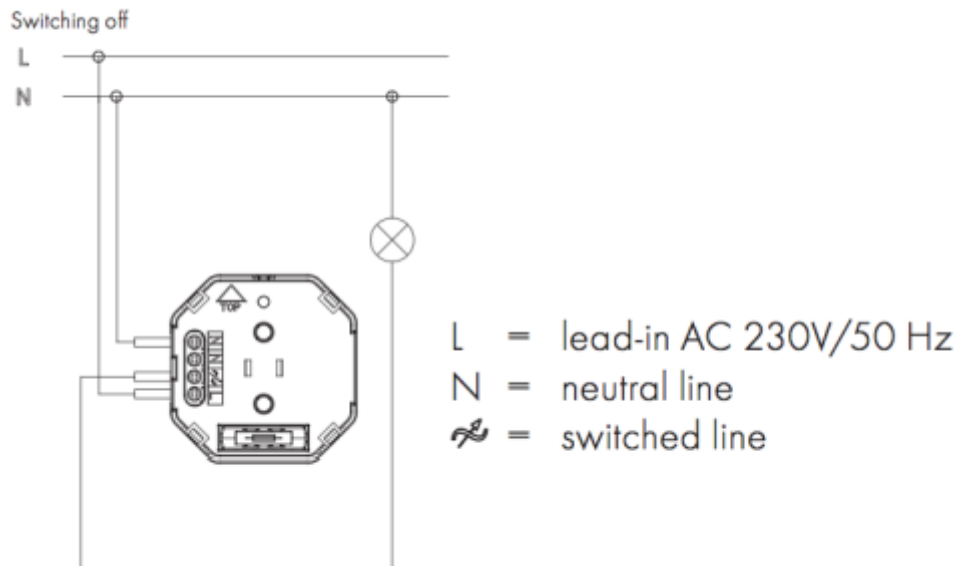
Behavior within the Z-Wave network

I   On factory default the device does not belong to any Z-Wave network. The device needs to join an existing wireless network to communicate with the devices of this network. This process is called **Inclusion**. Devices can also leave a network. This process is called **Exclusion**. Both processes are initiated by the primary controller of the Z-Wave network. This controller will be turned into exclusion respective inclusion mode. Please refer to your primary controllers manual on how to turn your controller into inclusion or exclusion mode. Only if the primary controller is in inclusion or exclusion mode, this device can join or leave the network. Leaving the network - i.e. being excluded - sets the device back to factory default.

If the device already belongs to a network, follow the exclusion process before including it in your network. Otherwise inclusion of this device will fail. If the controller being included was a primary controller, it has to be reset first.

Blinking red/green LED indicates that the device is in factory reset state. Once the controller is turned into inclusion mode **triple click one of the buttons on the device will include the device**. A green blinking of LED will indicate successful inclusion that will be turned off shortly afterwards. The **device is excluded by triple click to one of the buttons** when the controller is in exclusion mode.

Operating the device

The actuator is operated by the local switching paddles or wirelessly using Z-Wave commands (communication patterns 1, 4, 5 and 7). If the insert is mounted correctly pushing the upper part of the paddle will turn on the load; pushing the lower part of the paddle will turn off the electric load.

The device is also able to remotely operate other devices (communication pattern 5) by sending wireless Z-Wave commands. In case the remote device is a switch as well the remote operation is similar to the local operation by pushing upper to lower part of the switching paddle.

Child Protection

The device can be turn into a child protection mode. In this mode all local operation is disabled.

The child protection mode MUST be turned on wirelessly. However in protected by sequence mode it is possible to unlock the device for local operation with a triple click. The unlock state will last for 5 seconds.

LED Control

Red and green blinking continuously: Device is not included in a Z-Wave network
Red lights up for 3 seconds: Device was not included/excluded after being put into learn mode by triple press of up/down button
Green lights up for 3 seconds: The inclusion/exclusion was successful or new association was saved successfully
Green or no light: depending on settings of configuration parameter for LED control

Associations

A Z-Wave devices control other Z-Wave devices. The relationship between one device controlling another device is called *association*. In order to control a different device, the controlling device needs to maintain a list of devices that will receive controlling commands. These lists are called **association groups** and they are always related to certain events (e.g. button pressed, sensor triggers, ...). In case the event happens all devices stored in the respective association group will receive a common wireless command.

Association Groups:

1	Basic On/Off Group (max. nodes in group: 5)

Command Classes

Supported Command Classes
Basic (version 1)
Hail (version 1)
Binary Switch (version 1)
Version (version 1)
All Switch (version 1)
Indicator (version 1)
Manufacturer Specific (version 1)
Protection (version 1)
Association (version 1)

Controlled Command Classes
Basic (version 1)

Technical Data

Power Supply	230V ~50-60 Hz
Attachable Loads	up to 2300 W resistive load or up to 460 VA inductive load
Fuse	Type: T 1.25 A H (Load 1.25 Ampere, high shutdown capacity), D: 5 mm, L: 20 mm
IP Rating	IP 20
Frequency	868.42 MHz (SRD Band)
Wireless Range	up to 100 m outside, on average up to 20 m inside buildings
Explorer Frame Support	No
SDK	5.02 pl2
Device Type	Slave with routing capabilities
Generic Device Class	Binary Switch
Specific Device Class	Binary Power Switch
Routing	Yes
FLiRS	No
Firmware Version	1.0

Explanation of Z-Wave specific terms

Controller — is a Z-Wave device with capabilities to manage the network. Controllers are typically Gateways, Remote Controls or battery operated wall controllers.

Slave — is a Z-Wave device without capabilities to manage the network. Slaves can be sensors, actuators and even remote controls.

Primary Controller — is the central organizer of the network. It must be a controller. There can be only one primary controller in a Z-Wave network.

Inclusion — is the process of bringing new Z-Wave devices into a network.

Exclusion — is the process of removing Z-Wave devices from the network.

Association — is a control relationship between a controlling device and a controlled device.

Wakeup Notification — is a special wireless message issued by a Z-Wave device to annonces that is is able to communicate.

Node Information Frame — is a special wireless message issued by a Z_Wave device to announce its capabilities and functions.

Disposal Guidelines

The product does not contain hazardous chemicals.

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities. Contact your local government for information regarding the collection systems available. If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.